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Government of the Province of Saskatchewan

DEPARTMENT OF AGRICULTURE

FORESTRY CIRCULAR No. 1.

FARM FORESTRY
AND
HORTICULTURE

TREES AND SHRUBS FOR THE PRAIRIE FARM.

The professional forester regards plantations with a view to obtaining direct returns such as fuel, fencing material, etc., but the average settler is more concerned at first in establishing plantations for shelter purposes. This leaflet will deal more particularly with the planting and establishment of shelter belts and wind breaks, while emphasis will be given to the additional attractiveness the farmstead gains by a systematic laying out of trees and shrubs in its immediate vicinity. As is generally known the "forestry branch" at Indian Head has for years been supplying, free of charge, a large number of seedlings and cuttings to settlers, the only stipulation being that certain regulations to insure the subsequent success of planting be adhered to.

SHELTER BELTS AND WIND BREAKS.

The term "shelter belt" denotes a protecting strip of trees made up of several rows. In planning the arrangement of the main shelter belt, always bear in mind that it is to be a *permanent* feature. The main belt practically determines the limit of space available in future for additions to buildings and so on. The belt of trees planted today will be in the same place thirty or forty years later. It may be well to suggest here that forethought be called to aid; settlers have at times planted the trees at the correct distance but in the wrong locations. The trees should be planted where they will be a protection —*not* to the log or lumber shack of today—but to the commodious farm house which it will be possible to erect after some prosperous years have intervened. It is therefore a good policy *not* to use the one ideal building spot for the original, and often humble dwelling. Once established, the trees cannot be removed without great labour. If for any reason it be found necessary to do this in after years, it simply means the destruction of what otherwise may be the most valuable portion of the home site. Remember, too, that any belt of trees will collect large drifts of snow in the winter time. It is not desirable to have such drifts immediately around the buildings, and for this reason the trees must be kept well back.

When we plant our cuttings it is somewhat difficult to realise that within ten or fifteen years they will be from twenty to thirty feet high with a corresponding spread of roots and branches. This must be taken into account when arranging for a shelter of high growing trees around the vegetable garden or fruit orchard. To be on the safe side it is not well to try to determine the smallest possible area that might answer the purpose, but rather make provisions for every conceivable development that can be thought of and then allow for just a little more room still; for ten chances to one, some necessity will arise later on for which no provision has been made.

To arrive at a definite conclusion, it may be stated that no buildings should be within thirty yards as a minimum of the main belt, unless there is outside of this belt a narrow wind break with an intervening vacant strip a few rods in width.

Secondary wind breaks.—During the earlier years the trees are small and their sheltering influence would not be apparent except in their immediate vicinity. It is therefore well, during these early years, to arrange for what might be termed "secondary wind breaks," preferably of single or double rows at convenient distances within the main belt. They are only intended to serve a temporary purpose and are to be cut out as soon as they have outgrown their usefulness.

Danger of snow break.—An outside wind break of one or two rows is most desirable in connection with the main shelter belt. Until the trees in the main belt have reached a fair size they are quite liable to be broken down by the weight of snow they themselves collect. This can be avoided if an outside row of one of the shrub varieties having a dense growth is planted a few rods back from the main belt. For this purpose a row of Caragana is most suitable, the plants of which should be placed from one foot to eighteen inches apart.

PREPARATION OF THE GROUND FOR TREE PLANTING.

In prairie tree planting a thorough preparation of the soil is of the utmost importance; as a matter of fact, the success of the plantation depends on it. Our average prairie soil requires deep cultivation to secure a suitable root room and also to furnish a reservoir for water storage, hence it is apparent that the land should be ploughed at the proper season.

Summerfallow may be considered as the best preparation for tree planting. In some seasons it is the only preparation that can be absolutely relied on. There are cases, perhaps not infrequent, where success has followed planting on root ground, back setting, or even stubble, but as the trees will remain where planted for years and years, it will be impossible to remedy any defects due to improper preparation in later years. Old ground, *deeply* summerfallowed in May, and then conscientiously surface cultivated throughout the summer, will be comparatively free from weeds and contain a maximum of moisture which will insure the success of the planting in the following spring. *New land* should be broken early, backset as soon as the sod is rotted, and then *immediately* disced and thoroughly surface cultivated till freeze up. Next season treat as summerfallow. Don't imagine that it is a loss of time to put two seasons' work on new land. The extra labour and time spent will be more than compensated for by the results obtained.

On comparatively light soils, if breaking is done very early and back setting finished in late June, a third ploughing seven or eight inches deep may be given towards the end of July or early August. This, subsequently thoroughly cultivated, will give a good preparation for tree planting *provided the work has been thoroughly done.*

Stubble land.—Planting on stubble land should be absolutely avoided, as failure is an almost invariable result.

SELECTION OF VARIETIES.

The first point is, of course, to select only hardy kinds. In planting for shelter in a wide belt, it is always preferable to use a number of different varieties.

In a larger shelter belt the common Manitoba Maple should be freely used; in fact, it would be advisable in nearly every case to have about 50 per cent. of the trees of this variety. For "ordinary shelter belt purposes" the following varieties will be found most useful: Manitoba Maple, American Elm, Acute Leaf Willow, Green Ash, Cottonwood, Russian Poplar, with sometimes an occasional mixture of White Birch. In western Saskatchewan Russian Poplar may be planted more freely than Cottonwood, and Caragana may be introduced to advantage where Maple otherwise would be used.

For *tall growing wind breaks* of a single or double row, the Manitoba Maple and Acute Leaf Willow will be found most suitable, while for *low growing breaks or hedge* the Caragana is above all, the best all round plant.

For *avenues*, American Elm, Green Ash and Cottonwood.

For *ornamental purposes*, Mountain Ash, Cut Leaf Birch and Paper Birch.

For *dwarf shrub effects* the Dwarf Mountain Pine and the Juniper are very useful.

Number of trees needed.—In order to determine the number of trees required to plant a given area, the easier way is to multiply the distance in feet between the rows by the distance in feet between the plants in the row, and divide the product into the number of square feet in the plot.

PLANTING.

The actual planting is only a small matter. We advise planting in a deep plough furrow and keeping in mind the important point that the soil must be firmly tramped around the roots. After planting, the ground must be given frequent surface cultivation with a single horse cultivator. Cultivation having been done to conserve moisture and keep down the weeds it should cease early in August but no weeds must be allowed to go to seed.

THE DESIRABILITY OF TREE PLANTING.

It seems barely necessary to dwell very much on the reasons why it is advisable to expend considerable labour on tree planting round the farm home. Economically no farm is properly equipped, no matter how expensive the buildings are, if some suitable shelter is not forthcoming. Once a shelter is established the successful growing of many fruits becomes possible. To most men, the presence of trees with their varied tints changing with the seasons, supplies that restful, homelike atmosphere which can be produced through no other means.

PERENNIAL FLOWERING PLANTS

Perennial flowering plants are of particular value in a country having seasons such as there are here, and where the conditions of labour offer little encouragement to the working gardener. As it is, a person must either buy flowering plants from some outside source or else sow seeds and wait till late in the summer for bloom as the making and caring for hotbeds is impracticable for the majority, but by planting perennials and bulbs, flowers can be had from May till October by making a good selection of varieties. Once planted most of the varieties listed will continue to bloom and increase in size for many years, and they will thrive under conditions of drought and neglect that would kill many annuals. Some varieties require different treatment from others, but as this usually consists in knowing when to break up the clumps and at what season to move them, it will be a simple matter to ascertain this after the garden has been planted for a couple or three years.

Many inquiries are received as to the varieties of perennial flowering plants which can be grown in the province. At the present time information on this subject is limited and rather uncertain. The following list of twenty safe varieties has been prepared. In the cases of such species as Delphinium only a few of the large number of varieties of each are given, but there is reason to believe that most of those listed in nursery catalogues will be satisfactory.

Attention is particularly drawn to the fact that there are several native plants on the prairie which are considered valuable for use in gardens in Europe and the United States. The roots can usually be obtained without difficulty, and the quality of the bloom will improve under cultivation; these are marked with a star.

TWENTY SAFE VARIETIES.

*Anemone patens	Mauve or purple, April and May.
Anthemis tictora Kelwayi	Yellow, daisy-like, August.
Alyssum saxatile	Yellow, May.
*Aquiligia Canadensis	Scarlet and yellow, June.
coerulea	June and July.
chrysantha	
hybrids	
Campanula carpatica	Blue, dwarf, June to September.
persicifolia	Blue and white, July to September.
Chrysanthemum maximum	White Shasta Daisy, several varieties.
Delphinium chinense	Blue.
hybrids	Blue, many varieties.
Dianthus plumarius (pinks)	White and pink, June and July.
barbatus (Sweet William)	White, pink, crimson, June and July.
Dicentra spectabilis	Crimson and white, good foliage, June.
*Gaillardia aristata	Yellow and orange, many varieties.
Helenium	Several named varieties, requires plenty of room, yellow, orange, brown, valuable for late blooming.
Hemorocallis (day lily)	Yellow, orange, several varieties.
Iris, German	White, blue, purple, yellow, etc., many varieties.
Siberian	Blue and white. The most ornamental for small gardens.
*Lilium (native variety)	Orange.
tenuifolium	Coral red.
tigrinium	Orange.
Penstemon coerulea	Bright blue.
*Paeony	White, pink, crimson, etc., many varieties
*Poppy nudicaule (Iceland)	Yellow and white.
alpina	Salmon and pink, dwarf.
oriental	Scarlet, large.
Rudbeckia laciniata	Yellow, 5–7 feet.
Trollius	Orange and yellow.
Veronica amethystina	Mauve.

Many perennial plants can be bought from the Patmore Nursery Co., Brandon, Man.; A. P. Stevenson, Dunstan, Man.; Devils Lake Nursery Co., Devils Lake, North Dakota; C. S. Harrison, York, Nebraska; and almost all desired varieties from H. A. Dreer, Chestnut Street, Pennsylvania.

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